






By
Mercedes D. Erdey and Guy R. Cochrane
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DEPTH ZONE 2—INTERTIDAL TO 50 METERS WA

SLOPE CLASS 1—0 TO 5 DEGREES

	Fine- to medium-grained smooth sediment —Low backscatter, medium-grained sand, often rippled and (or) burrowed
	Mixed smooth sediment and rock —Moderate to very high backscatter, coarse-grained sand, gravel, cobbles, and bedrock
	Rock and boulder, rugose —High backscatter, high rugosity; typical of bedrock
	Medium- to coarse-grained sediment —Very high backscatter, to coarse-grained sediment, with varying amounts of shell
	Hard autogenic material —High backscatter, high rugosity

REFLECTANCE

SLOPE CLASS 2—5 TO 30 DEGREES




	Fine- to medium-grained smooth sediment —Low backscatter, medium-grained sand, often rippled and (or) burrowed
	Mixed smooth sediment and rock —Moderate to very high backscatter, coarse-grained sand, gravel, cobbles, and bedrock

DEPTH ZONE 3A—30 METERS TO 100 METERS WATER

SLOPE CLASS 1—0 TO 5 DEGREES

Green	Fine- to medium-grained smooth sediment—Low backscatter, medium-grained sand, often rippled and (or) burrowed
Light Green	Mixed smooth sediment and rock—Moderate to very high back scatter, coarse-grained sand, gravel, cobbles, and bedrock
Dark Green	Rock and boulder, rugose—High backscatter, high rugosity; typical of bedrock
Light Purple	Medium- to coarse-grained sediment—Very high backscatter, to coarse-grained sediment, with varying amounts of shell
Dark Purple	Hard anthropogenic material—High backscatter, high rugosity


SLOPE CLASS 2—5 TO 30 DEGREES


	Fine- to medium-grained smooth sediment —Low backscatter, medium-grained sand; often rippled and (or) burrowed
	Mixed smooth sediment and rock —Moderate to very high backscatter; coarse-grained sand, gravel, cobbles and bedrock
	Rock and boulder, rugose —High backscatter, high rugosity; typical of rocky shorelines


Medium- to coarse-grained sediment—Very high backscatter, like coarse-grained sediment, with varying amounts of shell hash.

DEPTH ZONE 4—100 METERS TO 200 METERS WATER




SLOPE CLASS 1—0 TO 5 DEGREES

 Fine- to medium-grained smooth sediment—Low backscatter, medium-grained sand; often rippled and (or) burrowed

 Mixed smooth sediment and rock—Moderate to very high backscatter; coarse-grained sand, gravel, cobbles, and bedrock

 Rock and boulder, rugose—High backscatter, high rugosity; typical bedrock

SLOPE CLASS 2—5 TO 30 DEGREES

	Fine- to medium-grained smooth sediment—Low backscatter, medium-grained sand; often rippled and (or) barrowed
	Mixed smooth sediment and rock—Moderate to very high backscatter; coarse-grained sand, gravel, cobbles, and bedrock
	Rock and boulder, rugose—High backscatter, high rugosity; typical of bedrock

Medium- to coarse-grained sediment—Very high backscatter, low rugosity; may be coarse-grained sediment, with varying amounts of shell hash.

SLOPE CLASS 3—30 TO 60 DEGREES

Fine- to medium-grained smooth sediment—Low backscatter, medium-grained sand; often rippled and (or) burrowed.

Mixed smooth sediment and rock—Moderate to very high backscatter; coarse-grained sand, gravel, cobbles, and bedrock.

Rock and boulder, rugose—High backscatter, high rugosity; typical bedrock.

SLOPE CLASS 1—0 TO 5 DEGREES

SLOPE CLASS 2—5 TO 30 DEGREES

fine- to medium-grained smooth sediment—Low backscatter, low rugosity; typically medium-grained sand; often rippled and (or) burrowed

fine- to medium-grained sand and rock—Moderate to very high backscatter, low rugosity

coarse-grained sand, gravel, cobbles, and bedrock—High backscatter, high rugosity; typically boulders and bedrock

fine- to medium-grained smooth sediment—Low backscatter, low rugosity; typically medium-grained sand; often rippled and (or) burrowed

Rock and boulder, rugose—High backscatter, high rugosity; typically boulders on bedrock.

EXPLANATION OF MAP SYMBOLS

Areas of "no data"—Areas near shoreline not mapped owing to insufficient high-resolution bathymetry or insufficient coverage by side-scan sonar. Includes areas of seafloor mapping data; areas beyond limit of California's State Waters were not mapped. See also *California Seafloor Mapping Program*.

State Waters—The portion of California's State Waters.

Rugosity contour (in meters)—Derived from modified 2- and 5-m-resolution gridded data. Contour intervals: 1–100 m water depth, 10 m; 100–200 m water depth, 20 m; 200–500 m water depth, 50 m; 500–1000 m water depth, 100 m.

DISCUSSION

rate classes mapped in this area have been divided into the following California depth zones: Depth Zone 2 (intertidal to 30 m), Depth Zone 3 (30 to 100 m), and Depth Zone 5 (greater than 200 m). In addition, the following slope class (Coastal and Marine Ecological Classification Standard slope zones are

Depth Class 1, 0° to flat), Slope Classes 2, 5° to 30° (interior), and Slope Class 3, 30° to 60° (interior). Slope Class 1 (interior), and Slope Classes 4 and 5, greater than 60° (over the edge) are not present in this map area.

Depth Class 1 (interior), and Slope Classes 2 and 3, 0° to 30° (interior and mud) make up 77.1 percent of the map area. Depth Class 2, 37.2 percent (156.0 km²) is in Depth Zone 2. Slope Class 3, 30° to 60° (interior), is in Depth Zone 4, and 19.9 percent (80.7 km²) is in Depth Zone 5. Mixed sand and gravel and rock (that is, sediment typically forming a veneer over bedrock) make up 22.5 percent to relate) make up 16.0 percent (64.8 km²) of the map area: 0.1 percent (0.4 km²) is in Depth Zone 1, 0.1 percent (0.4 km²) is in Depth Zone 2, 1.5 percent (6.0 km²) is in Depth Zone 3, 2.5 percent (10.3 km²) is in Depth Zone 4, and 1.4 percent (5.6 km²) is in Depth Zone 5. Anthropogenic material (pipe) makes up 0.5 percent (2.0 km²) completely; makes up 6.5 percent (26.4 km²) of the map area: less than 0.1 percent (0.4 km²) is in Depth Zone 1, 0.1 percent (0.4 km²) is in Depth Zone 2, 0.1 percent (0.6 km²) is in Depth Zone 3, 0.4 percent (1.6 km²) is in Depth Zone 4, and 5.5 percent (21.9 km²) is in Depth Zone 5. Medium- to coarse-grained sediment (in source areas) makes up 1.2 percent (4.8 km²) of the map area: less than 0.1 percent (0.4 km²) is in Depth Zone 1, 0.1 percent (0.4 km²) is in Depth Zone 2, 0.1 percent (0.4 km²) is in Depth Zone 3, 0.4 percent (1.6 km²) is in Depth Zone 4, and 0.6 percent (2.4 km²) is in Depth Zone 5. Anthropogenic material (pipe) makes up 0.3 percent (1.2 km²) of the map area: less than 0.1 percent (0.4 km²) is in Depth Zone 1, 0.1 percent (0.4 km²) is in Depth Zone 2, 0.1 percent (0.4 km²) is in Depth Zone 3, 0.4 percent (1.6 km²) is in Depth Zone 4, and 0.2 percent (0.8 km²) is in Depth Zone 5. Anthropogenic material (pipe) makes up 0.2 percent (0.8 km²) of the map area: less than 0.1 percent (0.4 km²) is in Depth Zone 1, 0.1 percent (0.4 km²) is in Depth Zone 2, 0.1 percent (0.4 km²) is in Depth Zone 3, 0.4 percent (1.6 km²) is in Depth Zone 4, and 0.1 percent (0.4 km²) is in Depth Zone 5.

	Depth Zone 2	Depth Zone 3	Depth Zone 4	Depth Zone 5
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	Total		water depths 0–30 m		water depths 30–100 m		water depths 100–200 m		water depths >200 m	
	percent	sq km	percent of total	sq km	percent of total	sq km	percent of total	sq km	percent of total	sq km
Fine- to medium-grained sand and silt	77.1	312.2	8.9	36.0	37.2	150.6	11.1	44.9	19.9	80.7
Coarse sand and silt	16.0	64.8	0.1	0.3	2.5	10.1	2.5	10.3	10.9	44.1
Mixed sand and silt with rock and boulder, rubble, and gravel	6.5	26.4	<0.1	<0.1	0.1	0.6	0.4	1.6	6.0	24.2
Medium- to coarse-grained sediment	0.3	1.3	0.2	0.9	0.1	0.3	<0.1	0.1	0.0	0.0
Rugged, hard anthropogenic (pipes)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.0	0.0	0.0	0.0

[illegible]

Figure 1. Detailed view of substrate classes mapped offshore of Moss Landing, at head of Monterey Canyon [see Box A, on map, for location]. Depth Zones 2, 3, and 4 (infaunal to 200 m), and Slope Classes 1 and 2 (0° – 30°). Fine- to medium-grained smooth sediment is shown in shades of medium green and dark green; mixed smooth sediment and rock is shown in shades of tan and orange; and medium- to coarse-grained sediment is shown in shades of light green and dark gray. Bathymetric contours (30 and 100 m) shown for depth reference.

[illegible]

Figure 2. Acoustic-backscatter image (see sheet 3) draped over shaded-relief bathymetry (see sheet 2) for same area as figure 1 (Box A on map). Brighter areas indicate coarse-grained, rough, or hard seafloor; darker areas indicate unconsolidated (loosely packed) sediment. Interpreted substrata classes from figure 1 included for comparison. Bathymetric contours (120 and 100 m) shown for depth reference.

[illegible]

Figure 3. Rugosity (characterization of roughness derived from bathymetry) draped over shaded-relief bathymetry (see sheet 2) for same area as Figure 1 (Box A on map). Rugosity values are displayed in muted "rainbow" color spectrum that ranges from purple (low rugosity) through green (medium rugosity) to red (high rugosity). Interpreted substrate classes from Figure 1 included for comparison. Bathymetric contours (50 and 100 f) shown for depth reference.

The figure is a detailed map of a coastal or estuarine environment, likely a salt marsh or tidal flat. It shows various vegetation types and their distribution across different zones. The map includes labels for regions like Depth Zone 1, Slope Class 1, Mixed smooth wetlands and rock, Depth Zone 3, Slope Class 2, Fine-to medium-grained smooth sediments, Depth Zone 4, Slope Class 3, Rock and boulder regions, Depth Zones 4 and 3, Coarse Clays, Fine-to medium-grained smooth sediments and rock, Depth Zones 4 and 3, Slope Class 2, Mixed smooth wetlands and rock, Depth Zone 4, Slope Class 4, Fine-to medium-grained smooth wetlands, and Depth Zone 4, Slope Class 5. The map also shows a network of waterways and channels.

Figure 4. Detailed view of substrate classes mapped on northwest rim of Sequel Canyon, along continental shelf–submarine canyon interface (see Box B, on map, for location). Depth Zones 3, 4, and 5 (30 m to greater than 200 m) and Slope Classes 1 and 2 (10° – 30°). Fine- to medium-grained sand and silted sediment is shown in shades of green and blue; mixed silted sediment and rock is shown in shades of tan, orange, and purple; and rock is shown in shades of red and brown. Bathymetric contours (100 and 200 m) shown for depth reference.

[illegible]

Figure 5. Acoustic backscatter image (see sheet 3) draped over shaded-relief bathymetry (see sheet 2) for same area as figure 4 (Box B on map). Brighter areas indicate coarse-grained, rough, or hard seafloor; darker areas indicate unconsolidated (loosely packed) sediment. Interpreted substrate classes from figure 4 included for comparison. Bathymetric contours (100 and 200 m) shown for depth reference.

Rock and boulders, ragged, Depth Zone 3, Slope Class 1

Fine to medium-grained smooth sediment, Depth Zone 4, Slope Class 1

Mixed smooth sediment and rock, Depth Zone 3, Slope Class 1

Fine to medium-grained smooth sediment, Depth Zone 4, Slope Class 1

Rock and boulders, ragged, Depth Zone 3, Slope Class 2

Fine to medium-grained smooth sediment, Depth Zone 4, Slope Class 2

Mixed smooth sediment and rock, Depth Zone 3, Slope Class 2

Rock and boulders, ragged, Depth Zone 4, Slope Class 2

Mixed smooth sediment and rock, Depth Zone 4, Slope Class 2

Fine to medium-grained smooth sediment, Depth Zone 4, Slope Class 2

Figure 6. Rugosity (characterization of roughness derived from bathymetry) draped over shaded-relief bathymetry (see sheet 2) for same area as figure 4 (Box B on map). Rugosity values are displayed in muted "rainbow" color spectrum that ranges from purple (low rugosity) through green (medium rugosity) to red (high rugosity). Interpreted substrate classes from figure 4 included for comparison. Bathymetric contours (100 and 200 m) shown as depth reference.

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